

# Onboard Scallop Observer Program Manual 1994 Region 1



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*Alaska Department of Fish and Game  
Commercial Fisheries Management and Development Division  
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ONBOARD SCALLOP  
OBSERVER PROGRAM MANUAL

1994

REGION 1



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Alaska Department of Fish and Game  
Commercial Fisheries Management and Development Division  
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## PART I

### INTRODUCTION

The purpose of this manual is to describe the duties of observers participating in the Alaska Department of Fish and Game (ADF&G) Mandatory Shellfish Observer Program for Alaskan scallop processors. The manual also serves as a reference guide for information about the observer's qualifications, training, certification, gear and logistical arrangements as well as responsibilities and requirements of observer contractors, vessel operators and ADF&G.

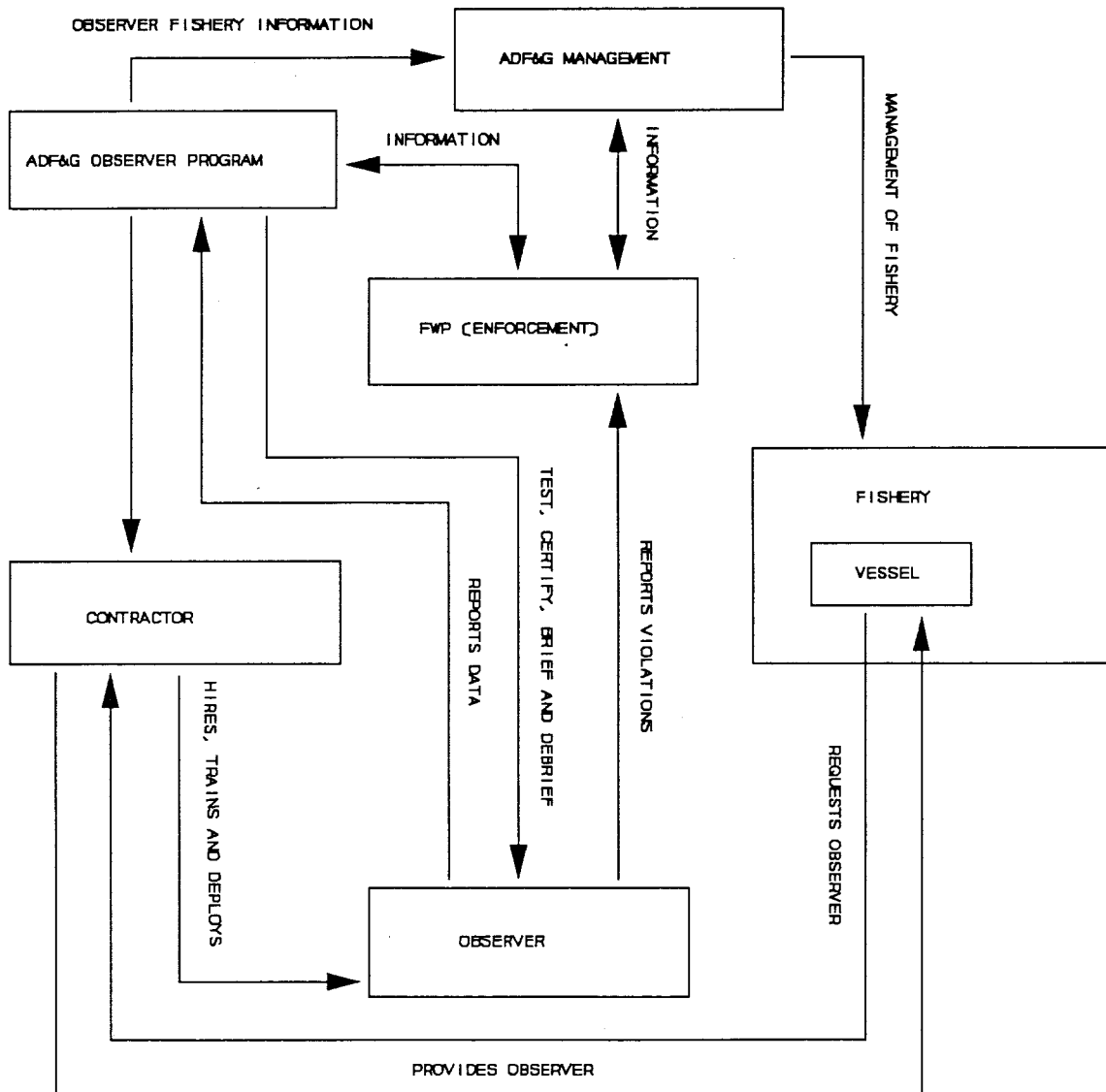
The need for this program arose when the Commissioner of Fish and Game adopted regulations requiring onboard observers for all scallop vessels in Alaskan waters, and applies statewide.

Regulations governing the Onboard Observer Program are found in the Alaska Department of Fish and Game, Commercial Shellfish Regulations, 5 AAC 39.141, 39.142, 39.143, and 39.645, and should be referenced in their entirety.

As stated in the regulation, onboard observers provide the only effective means of collecting essential biological and management data. This necessitates accuracy in data collection, and complete fulfillment of the sampling plan. Data forms must be carefully completed and checked. All data collected are considered confidential information under state statutes (AS 16.05.815). Only the observer is authorized to collect these data to be turned over to those agencies specified in this statute for review.

This manual, along with the ADF&G training and pre-trip briefing, should adequately prepare the observer to carry out his or her duties. Because of variations in scallop and bycatch handling by different vessels, observers may frequently be confronted with sampling problems not fully covered in this manual. Observers will be required to adapt sampling procedures if necessary to insure an unbiased and representative sample of the landing is collected. When sampling procedures are modified, the observer must insure that ALL necessary data are collected and modifications documented. Because vessel owners, operators, contractors, observers and ADF&G are jointly involved in the observer program, it is helpful to avoid confusion by diagramming the program and the relationship between contractors, observers, vessels and ADF&G. The following diagram demonstrates these relationships and responsibilities:

# STATE OF ALASKA MANDATORY SHELLFISH OBSERVER PROGRAM



## **PROGRAM RESPONSIBILITIES**

### ***Vessel Owners and Operators***

1. Contract and pay for observers through a "third party" contractor;
2. Provide adequate notice to contractors of observer's arrival to area offices for purposes of debriefing;
3. Provide adequate food and accommodations for the observer that are equal to those provided for the vessel's crew;
4. Ensure crab and by catch are sorted prior to discard,( and before processing, make all scallops available to the observer for inspection prior to discard;)
5. Ensure that all scallops are available to the observer for inspection, to include sexing, measuring and weighing prior to processing or discard;
6. Provide to the observer daily catch information including areas fished, pounds of scallops landed, number of hauls by statistical area, and other information as required by ADF&G;
7. Allow observers free and unobstructed access to inspect catch, equipment, gear, and operations of assigned vessel.
8. Provide a safe work area, necessary gear (totes, etc.) and opportunity to allow observer to adequately sample catch according to the requirements of ADF&G;
9. Provide free and unobstructed access to the loran and/or GPS coordinates, at least twice in each 24 hour period;
10. Assure observer access to SSB radio, fax or telephone AND that catch reports from observers are received at the area management office as required by ADF&G;
11. Notify the observer on a daily basis before scallops are brought on board to allow sampling, unless the observer specifically requests not to be notified.

### ***Alaska Department of Fish and Game***

1. Establish standards for observer and contractor conflict of interest;
2. Determine certification, suspension, probation and decertification criteria for observers and contractors;



3. Certify, suspend, and decertify observers and contractors;
4. Establish appeal procedures for suspended and decertified observers and contractors;
5. Establish, administer, and score certification test;
6. Maintain list of certified observers and contractors;
7. Provide list of certified observers to contractors;
8. Provide list of certified contractors to observers, industry and the public;
9. Determine sampling procedures;
10. Maintain a list (for ADF&G use) of observer briefing and debriefing dates and observer and vessel activity for verification of compliance with 35 and 90 day rule;
11. Approve all observer vessel assignments;
12. Brief and debrief observers only in the ADF&G office responsible for the management of the specific fishery, unless ADF&G authorizes otherwise, prior to boarding and immediately after leaving the vessel;
13. Provide observers with appropriate paperwork as listed under "Forms and supplies provided by ADF&G" herein;
14. Monitor data gathering performance of the observers;
15. Provide observer's contractor an evaluation of observers work performance with a written copy of the debriefing evaluation;
16. Analyze observer data;
17. Prepare reports;
18. Review observer candidate's qualifications, based on contractor supplied transcripts, resume's, etc., for compliance of Observer Program standards; and
19. Approve observer training course.

### ***Contractors***

1. Employ observer as payroll employee and provide all administrative functions and assume all responsibilities associated with employment of observers, including withholding of payroll taxes, and insuring observers in compliance with Alaska state law;
2. Secure contracts directly with vessel owners and/or operators;
3. Provide ADF&G with a certification training program plan and qualifications of trainer(s), to be approved by ADF&G no less than 14 days prior to implementation;
4. Provide observer training to meet requirements as outlined in the "observer training requirements" section of this manual;
5. Provide all logistical support for observers including but not limited to room and board, travel to/from vessels, travel to/from ADF&G testing sessions, briefings and debriefings;
6. Assign observers to vessels without regard to requests from vessel owners and/or operators for or for exclusion of specific observers. Any such requests shall be reported to ADF&G;
7. Provide, for each assignment, a complete set of observer sampling gear (as outlined herein under "Observer Sampling Gear Supplied by Contractor"), to be available prior to testing and for each briefing;
8. Provide ADF&G a minimum of 48 hour advanced notice of observer's scheduled arrival at area management office for briefings and debriefings;
9. Make all observer briefing and debriefing appointments directly with ADF&G; and
10. Maintain adequate records of observer's scheduled briefing and debriefing dates, and track observer time on vessel to insure compliance with maximum trip limits for trainee observers (35 days per trip) and fully certified observers (90 days per vessel in 12 consecutive months).

## **PROGRAM QUALIFICATIONS AND REQUIREMENTS**

### ***Observer Qualifications***

To qualify as a candidate for Scallop Observer Program, an individual:

1. **MUST** presently be a certified Shellfish Observer;

2. Must have completed and passed a department approved scallop training course within six (6) months of being deployed as a scallop observer. If a scallop training course has not been conducted during the six month period, a scallop observer must have completed a department approved scallop training course within one (1) year of deployment.
3. May not have been convicted of a misdemeanor or felony involving fraud, dishonesty, an "offense against the person" in violation of AS 11.41, arson under AS 11.46.400, or a fish and game misdemeanor or fish and game infraction with a penalty in excess of \$300.00 for a period of seven years preceding application to the onboard observer program.

In addition to the above requirements, prior to deployment the observer must;

1. Be physically able to carry out duties and not be incapacitated by chronic or debilitating seasickness;
2. Be able to demonstrate all the skills listed below under "Observer Training Requirements".

## **GENERAL PROGRAM PROCEDURES**

### ***Observer Training Requirements***

It is the responsibility of the contractor to provide observers who meet the requirements set forth below, prior to deployment as an onboard scallop observer. Required skills include, but are not limited to:

1. Ability to sex and identify various scallop species and other shellfish species as required by ADF&G;
2. Ability to take and read weights ;
3. Ability to identify various bottom conditions;
4. Ability to identify both male and female king crab (red, blue and brown), male and female Tanner crab (bairdi, opilio and hybrids) and male and female crab of other species as required by ADF&G;
5. Ability to accurately read a vernier caliper and properly measure the crab species, as well as the ability to use a fixed measuring gauge to determine biological size of scallops;
6. Understand the organizational structure of the shellfish regulation book and possess the ability to reference appropriate regulations as required;
7. Possess a radio-telephone (FCC) operator's license and ability to use a radio for communications;

8. Ability to identify common fish species caught as bycatch in hauls, such as Pacific cod, halibut and sablefish, etc;
9. Understand the procedures outlined in this manual;
10. Be capable of performing observer duties while on board the vessel; and
11. Be capable of taking good quality, close up photographs.

### ***ADF&G Certification***

To become an approved onboard scallop observer, a person must have first obtained full certification as an onboard shellfish observer, met all requirements as set forth in 5 AAC 39.143 OBSERVER CERTIFICATION AND DECERTIFICATION, and successfully completed a department approved scallop training course.

The Alaska Department of Fish and Game reserves the right not to allow any individual deemed unqualified, exhibiting poor judgment, lacking the appropriate skills necessary to carry out the job, or otherwise failing to meet requirements as set forth in 5 AAC 39.143, to be deployed as an onboard scallop observer.

### ***Observer Decertification***

ADF&G reserves the right of decertification as outlined in 5 AAC 39.143.

### ***Briefing and Pretrip Practium***

After assignment to a vessel by the contractor the observer must attend a pretrip briefing, at which time a ADF&G may conduct a pre-trip practium. Scallop observers may spend approximately 1-2 days in the Fish and Game office responsible for the management of the scallop fishery in which the vessel/observer is participating, for the trip briefing and additional review. All costs for transportation, housing, meals and salary during this period will be borne by the contractor representing the observer.

Information covered at the trip briefing will include species identification and measurement, sampling objectives and procedures, review of forms to be used during the sampling, regulations pertaining to the scallop and other fisheries, an explanation of radio codes to be used, and other instructions that ADF&G may deem necessary. The pre-trip practium may be given to determine if the individual understands and possesses the ability to carry out the work assignment. An observer unable to demonstrate a grasp of the duties required will be prohibited from participating as an onboard scallop observer. Unless ADF&G authorizes otherwise, all observers will be briefed and debriefed at the Fish and Game office responsible for the management of the fishery for which the vessel participates. All observer briefing and debriefing

appointments will be made by the representative contractor. Briefings and debriefings must be scheduled at least 48 hours in advance.

The observer MUST bring all required sampling equipment, as listed in the section "Observer Sampling Gear and Equipment, Provided by Contractor" to the briefing for visual confirmation by ADF&G. During the briefing the observer will be given state equipment for which her or she is responsible, and all necessary paperwork. ADF&G will review the observer manual, all relevant paperwork, and give the observer any fishery specific information. During the briefing the observer will be given a set of manual-specific codes to maintain confidentially when making catch reports to ADF&G.

Observers are encouraged to contact ADF&G if questions arise while at sea. The observer should have the Observer Manual at hand when contacting ADF&G as questions will most likely be answered by referring to the manual.

### *ADF&G Debriefing*

All scallop observers must be debriefed immediately after the completion of the assigned trip. No observer will spend more than 90 days on any one vessel in 12 consecutive months.

Observers must give ADF&G area staff immediate notice of their departure from the assigned vessel. After departure, observers are required to return directly to the ADF&G office at which briefing occurred, unless ADF&G gives permission to do otherwise. Debriefings are conducted at the Fish and Game office responsible for management of the fishery for which the vessel participated, and must be scheduled by the contractor at least 48 hours in advance.

Debriefing is necessary for the observer to turn in completed paperwork, have ADF&G personnel check data for completeness, answer any questions which might arise from a review of the observer's data forms and turn in all Department issued materials. Department materials not returned will be charged to the observer and may result in the revocation of observer certification. At this time the observer will provide a statement, and turn in evidence to a Fish and Wildlife Protection Officer if potential violations were observed during the trip. Observers are expected to have the observer's trip logbook and all forms and required reports completed and organized prior to arrival at the ADF&G office.

If an observer's vessel returns to a port of briefing for any reason, the observer MUST contact ADF&G. At the discretion of ADF&G a mid-trip debriefing may be scheduled, which will allow a preliminary data check and provide ADF&G an opportunity to resolve sampling problems or answer observer questions.

### *Confidentiality of Data*

Observers are not to provide any information they collect to anyone other than ADF&G personnel. Observer information is to be INDEPENDENT of catch information reported on the fish ticket. Observers are not to discuss anything involving fishing activity or catch information with their contractor, other observers or industry representatives. Due to the confidential nature of the information collected, observer data is to be turned in to ADF&G only and no copies are to be made. The vessel operator may review

daily observer collected information on the size frequency of the discarded and retained catch only. ALL OTHER OBSERVER COLLECTED INFORMATION, INCLUDING THE OBSERVER'S LOGBOOK AND WEEKLY TRIP SUMMARIES AND WEEKLY RADIO REPORTS ARE COMPLETELY CONFIDENTIAL. No one else may obtain a copy of any data collected by an observer unless a court order has been issued authorizing its release. The vessel operator may obtain, by written request to ADF&G, a summarized trip report.

### *Living and Working at Sea*

Once the observer has successfully completed the initial briefing requirements with ADF&G he or she should immediately proceed to their assigned vessel. The safety of the observer on board the assigned vessel is the responsibility of the observer, vessel operator and contractor. **THE STATE ASSUMES NO RESPONSIBILITY FOR THE OBSERVER'S SAFETY.**

The observer should also remember the following:

1. If or when a conflict or problem (with the crew, equipment, etc) occurs, which affects an observer's ability to sample as directed by ADF&G, the situation should be reported to the vessel operator immediately. If the vessel operator is unable or unwilling to resolve or correct the problem the observer should notify ADF&G immediately.
2. Do not interpret regulations. Interpretation of regulations should be done only by the staff of ADF&G or the Department of Public Safety.
3. Observer sampling activities should be as unobtrusive to vessel fishing and processing operations as possible. However, **SAMPLING DUTIES ASSIGNED BY ADF&G ARE MANDATORY.** Any actions on the part of the vessel's crew or employees to deny an observer space, equipment or opportunity to conduct his or her normal sampling activities should be recorded in the observer's logbook and reported at once to the vessel operator. If the vessel operator is unable or unwilling to correct the problem the observer should notify ADF&G immediately.

### *Observer Duties*

The observer's duty is to observe vessel fishing and processing operations and collect data as outlined below. The observer is not an enforcement agent and has no enforcement authority. The observer is expected to document all possible violations. The Alaska Department of Public Safety (FWP) will take appropriate enforcement action on information collected by the observer concerning possible violations.

Onboard observers of the Departments of Public Safety and Fish and Game shall have free and unobstructed access to inspect catch, equipment, gear or operations of the fishing vessel, tender or processor to which observers are assigned and the catches of vessels delivering to the assigned vessel while that vessel is within waters under the jurisdiction of the state, taking or intending to take any species of fish, or transporting or processing any species of fish.

When conducting legal or biological sampling, onboard observers will take representative and unbiased samples, and do so with a maximum amount of precision.

Any or all of the following procedures may be deleted or amended by the commissioner if deemed necessary to facilitate sampling procedures:

### ***Observer Sampling Duties***

1. Measuring shell heights, weighing whole scallops and meats, determining sexes, evaluating meat condition, and estimating ages of representative samples of scallops.
2. Record daily catch rates of the catcher vessel, including number of scallops retained and hauls made.
3. When so directed, obtain representative live weights of scallops and crab.
4. Record bycatch numbers, size, sex and condition in hauls for all species of crabs and fish as directed by ADF&G.
5. Observe compliance or lack of compliance with fishing regulations and document instances when possible violations are observed.
6. Document the handling, time on deck and retention of prohibited species not immediately returned unharmed to the sea.
7. Retain biological and enforcement samples as directed.
8. Testify in court and submit statements as necessary for prosecution.
9. Carry out additional duties as directed by ADF&G.
10. During fishing operations, compliance or lack of compliance in regards to closed areas or retention of prohibited species and other regulations should be observed and instances where possible violations are observed, should be documented.

## OBSERVER SAMPLING GEAR AND EQUIPMENT

### *Provided by Contractor*

1. 35 mm waterproof camera capable of taking good quality close-up photos in low light situations.
2. Spare batteries for camera (one complete set).
3. Two 300 mm (12") stainless steel vernier calipers of a type approved by ADF&G.
4. Two cassette tape recorders using standard or micro cassettes (must be as small as possible, battery operated and able to operate in cold and/or damp environments).
5. Two sets of batteries for tape recorder.
6. Two clipboards for 8 1/2" X 11 paper.
7. Small can of rust preventative (for caliper lubrication).
8. A minimum of 12 #2 pencils with erasers.
9. A means to sharpen pencils.
10. Two thumb counters.
11. Small calculator (battery operated).
12. Spare batteries for calculator (one complete set).
13. Calendar.
14. Watch.
15. A minimum of 2 #2 red pencils with erasers.
16. Locking briefcase large enough to contain sampling equipment and all data forms and ADF&G issued materials.
17. Fish identification book.
18. Black Indelible Marking Pen.
19. Hand magnifying lens.
20. Scallop knife.



21. Other equipment as required by ADF&G (with a minimum of 6 months advanced notice to contractors for additional costs in excess of \$100.00 per observer equipment set).
22. 100 pound spring scale, capable of weighing scallop samples in one (1) pound increments.

***Provided by Vessel***

Six (6) plastic bushel size baskets. (These baskets are to be available to the observer for sampling and must be onboard the vessel prior to departing port).

***Provided by ADF&G***

1. Observer Manual.
2. Radio Reporting Codes.
3. Write-in-the-Rain notebooks.
4. 35 mm film.
5. Cassette tapes.
6. Current Shellfish Regulation Booklet.
7. ADF&G Statistical Area charts.
8. All required data forms.

**PERSONAL GEAR**

***Provided by Contractor, Observer or Vessel***

1. Survival Suit
2. Flotation coat, coveralls, etc. to be worn while on deck.
3. Rain gear.
4. Waterproof deck boots.
5. Rubber gloves (w pair minimum).

*Provided by Observer*

1. Personal clothing, adequate for anticipated time at sea and time of year.
2. Personal articles (towels, medications, toothpaste, etc.).

## **PART II**

### **SAMPLING PROCEDURES**

This section is intended to give a general overview of scallop observer sampling procedures. Also included are selected definitions. Specific details, instructions and procedures for the completion of data forms and all other observer duties not described below are presented in the attached appendices.

In the following sections, several basic methods of sampling will be outlined. In most cases the observer will be able to use one of these methods or an adaptation of them. Since vessel design and procedures vary from vessel to vessel, it is the responsibility of the observer to select sampling procedures which will obtain the required data.

After boarding the vessel the observer should remember observer safety and the safety of others are of primary importance. The fishing industry is considered to be one of the most dangerous in the nation. THE OBSERVER SHOULD, AT ALL TIMES, BE AWARE OF HIS OR HER SURROUNDINGS AND WHAT IS HAPPENING AROUND THEM. Observers are urged to familiarize themselves with their personal safety equipment (survival suite, etc.), determine where safety equipment is stored and pay special attention to vessel emergency drills.

The observer should remember he or she is a representative of ADF&G and his or her actions reflect on the Department of Fish and Game, their contractor, other observers and the entire observer program. Observers should follow vessel rules and be sensitive to restrictions such as wearing rain gear or rubber boots in the living and/or eating areas etc. The observer should feel free to ask the vessel master or crew any questions about boat policies.

### **GENERAL FORMS INSTRUCTIONS**

All data collected by observers, must be processed, analyzed and summarized. It is not possible to change the computer format to accommodate an individual observer's method of recording data, so the forms must be filled out in the prescribed way. Refer to the specific instructions and examples for each form provided. If it is necessary to alert ADF&G about some aspect of the data, place a note in the comments area provided or on back of the form.

All forms should be neat. All numbers should be precisely printed in conventional arabic numbers so that they are legible. Sloppy forms multiply the number of keypunch errors and are time consuming to interpret. Use a sharp pencil, not a pen, to fill out all forms. Erasures should be neat if changes are necessary. Arrows may **NOT** be used to indicate that a number in a column is repeated.

All forms must be filled out **DAILY** and should be double checked for completion and readability as soon as possible. All forms (completed and blank) should be kept locked in the observers briefcase when not being used.

Recording times used should be either standard time or daylight savings time in conformance with the official time in use for Alaska.

### **RADIO REPORTING PROCEDURES**

Observers usually transmit data in coded form on SSB radio, use frequency 4125 (4A) unless instructed otherwise. A schedule for data reporting will be set at the pretrip briefing. The observer should be sure that reporting requirements are clearly understood. If the vessel has a fax machine or a telephone, the observer may use either of these methods instead of the SSB.

Observers will be given a unique set of codes (Appendix 1) in their Observer Manual during the pretrip briefing. ALWAYS USE CODES FOR DATA TRANSMISSIONS OVER THE PUBLIC AIRWAYS, INCLUDING FAX TRANSMISSIONS. Observers should not remove codes from their manual or allow anyone to see their code sheet or decoded data. Codes should be kept confidential and locked in the observer's briefcase when not in use. If someone other than the observer transmits the observer's report, they should be given the message in coded form only.

The information to be transmitted is listed on the Radio Report Form (Appendices 2 & 3), unless otherwise instructed. The radio is extremely busy at times so keep use of the radio to a minimum. The radio report form should be filled out prior to the assigned time to transmit, with all parts of the coded report spelled out in phonic words on the radio report. This will facilitate a smooth and accurate radio message. If the vessel operator/manager prefers to transmit the information himself, the observer should be present at the time it is transmitted in case any questions arise or special instructions are sent to the observer from ADF&G.

ADF&G will transmit only emergency messages to and from the observer. No personal messages.

### *Phonetic Alphabet*

A - ALPHA  
B - BRAVO  
C - CHARLIE  
D - DELTA  
E - ECHO  
F - FOXTROT  
G - GULF  
H - HOTEL  
I - INDIA

J - JULIET  
K - KILO  
L - LIMA  
M - MIKE  
N - NOVEMBER  
O - OSCAR  
P - PAPA  
Q - QUEBEC  
R - ROMEO

S - SIERRA  
T - TANGO  
U - UNIFORM  
V - VICTOR  
W - WHISKEY  
X - X-RAY  
Y - YANKEE  
Z - ZULU

### NOTEBOOK ENTRIES

ADF&G will provide a Rite-in-the-rain notebook to each observer. The observer notebook is intended to be a record of data and pertinent information not noted on any data forms. The notebook should document the crew list, vessel diagram, all sampling activities, sampling difficulties and all perceived regulation violations. The notebook is a confidential record of your activities. NO ONE has access to the notebook except the observer and ADF&G.

ALL sampling activity MUST be documented, including time, activity, results and difficulties. Document any sampling goals not met and the reason. This must be laid out in a clear and concise manner.

Document any incidence of prohibited species from the catch being consumed or kept (i.e. "homepacks") by crewmembers. When a potential regulation violation; including prohibited species, illegal gear, MARPOL violations, harassment, etc; is observed document all details. This should include: time of day, location on vessel, vessels and/or crew members involved and details of the exact nature of the suspected violation. Detail all conversations with crew members regarding the violation.

All notes, journals or other written material that discuss fishing activity are confidential and the property of ADF&G.

### SAMPLING ON SCALLOP VESSELS

Unless otherwise specified by ADF&G, observers assigned to scallop vessel will be responsible for achieving the following objectives for each trip. Observers MUST have access to the ENTIRE catch for sampling.

1. Interview vessel operator daily to determine pounds of scallop meat processed, statistical areas where fishing occurred, number of hauls and depth of fishing. Area and effort information may be obtained from the Fishing Log for Alaska Scallops (Appendix 4). Daily, the observer will

estimate the number of king and Tanner crab captured. In addition, numbers will be summarized weekly. (Weekly Trip Summary, Appendix 5). Do not obtain any catch information from the vessel operators completed fish ticket and do not supply catch information for completing fish tickets:

2. Report as directed at the briefing by radio to the local ADF&G the coded catch information. The schedule will be detailed at the time of briefing. (Radio Report Form, Appendix 3).
3. Sample randomly selected hauls daily for species composition and/or crab/halibut monitoring.

Prior to collecting any information, the fishing and sorting operation should be observed. Following an initial observation period, sampling procedures should begin.

Details on the daily number of scallop size frequencies, haul species composition and crab/halibut monitoring samples will be outlined at the trip briefing.

## **INDIVIDUAL FORM INSTRUCTIONS**

### **Appendix 3. RADIO REPORT FORM**

This form outlines the information that will be required to be transmitted to the local ADF&G biologist managing the fishery. The form and reporting schedule will be detailed at the observer briefing.

### **Appendix 4. FISHING LOG FOR ALASKA SCALLOPS**

This form is to be completed by the skipper. The observer will summarize daily the number of hauls and statistical areas fished.

- Trip number will be assigned at the time of observer briefing.
- Record ADF&G #
- Record Year
- Check hauls sampled. The observer will check this box to denote hauls that were sampled for either crab/halibut monitoring or species composition.
- Record total combined dredge width to the nearest foot.
- Record gear performance as coded. The captain will determine whether the dredges fished correctly.
- Record date, use number designation for month.
- Record haul no. using consecutive numbers for each haul. All hauls must be recorded regardless of gear performance. A single haul will be the combined catch of both dredges. Haul numbers will start at number 1 for each trip. Trips will begin with observer briefings, vessel off-loads or changes in registration areas.
- Set position, record in degrees, minutes and hundredths of a minute.
- Fishing times: record Alaska local time in military designation. Midnight will be recorded as 0000 hours with the following date.

- Fishing duration: record in minutes the time the gear was fishing (time on bottom). Hang up time should be excluded.
- Average bottom depth, record in fathoms.
- Average speed: record average speed to the nearest tenths of a knot.
- Retained catch: record estimated round weight of scallops in pounds. If the original estimate is in bushels, determine conversion factor for bushel to pounds. The observer can help the captain determine average weight of a bushel.
- Discarded catch: record estimated round weight in pounds of scallops discarded due to size or age characteristics.
- ADF&G Statistical Area: record six digit statistical area for area fished. The set position will be considered the area fished. Statistical area charts can be obtained from ADF&G.

#### **Appendix 5. WEEKLY SUMMARY FORM**

The observer will record the daily catch of shucked meats from each statistical area fished. Also recorded are the number of hauls fished and crab captured. The weekly summary is completed utilizing the fishing log, the sampled haul records and the captain's weights for pounds of shucked meats. When calculating the number of crab encountered, double the count per haul if only a single dredge was sampled and both dredges were fished. The top portion details the lbs of shucked meats from each stat area per day. The bottom section is the weekly total of shucked meat from each stat area fished.

Header information includes the trip number assigned at the time of briefing as well as the vessel ADF&G # and year fished.

#### **Appendix 6. SCALLOP OBSERVER HAUL FORM**

This form is used for two types of sampling.

- 1) Crab/halibut monitoring
- 2) Species composition

The observer will be briefed prior to the trip as to the sampling intensity for each type. All sample hauls must be selected randomly. Make the decision to sample a haul prior to seeing the contents. Header information is the same for both sample types.

- Trip #: Assigned by ADF&G at the time of briefing.
- ADF&G #: Alaska vessel license number.
- Haul #: This number will match the consecutive haul number listed in the skipper's log.
- # of Dredges Sampled: Indicate if crab/halibut count or species composition calculations are from 1 or 2 dredges.

- Sample Type: Enter 1 for crab/halibut monitoring or 2 for species composition.

For sample type 1: The observer will record the number of crab and halibut encountered. In addition, complete the crab and halibut size and condition forms.

For sample type 2: The observer will determine the catch weight of all species captured. Additionally, the crab and halibut size and condition forms will be completed.

When the dredges have been emptied aboard, an estimate of the total catch weight should be obtained from the skipper or made by the observer. Ideally, the entire catch is sorted by species with a weight recorded for each species. Halibut need only be measured with weights derived from conversion table (Appendix 10).

If the entire catch cannot be sorted due to volume, time, or restricted space, then a representative subsample will be taken.

First, estimate the total catch weight with the skipper's help. Sort crab and large species from the catch and determine total weight of those species. Crab and halibut will be measured and recorded on size and condition forms.

The remainder of the catch will be subsampled to determine their proportion of total catch weight. This subsample should consist of two fish baskets filled with a random selection. Sort the subsample by species. Species subsample weights are recorded on column 6 of the scallop observer haul form. (Add species found but not already listed.)

The subsample weights are to be extrapolated to indicate total poundage in the haul. Use the subsample calculations found on the observer haul form. The weight in total catch is equal to the species subsample weight times the raising factor. Record weight in total catch to the nearest whole pound. For species not listed on the form use the five digit species codes developed by the Resource Assessment and Conservation Engineering Division of National Marine Fisheries Service. Code books will be supplied by ADF&G.

#### **Appendix 7. CRAB SIZE AND CONDITION FORM**

This form is used to detail crab catches observed during crab/halibut monitoring or species composition sampling. Codes are listed on the form for species, sex, shell condition, injuries and mortality. Moribund crabs may be noted as dead. A carapace length measurement is required for king crabs and a carapace width measurement for other crabs.

#### **Appendix 8. HALIBUT LENGTH AND CONDITION FORM**

Halibut are measured to the nearest cm from the tip of the nose to the end of the central rays of the caudal fin. Weights are determined from length/weight conversion table as provided (Appendix 10).



## Appendix 9. SCALLOP SIZE FREQUENCY FORM

Fifty scallops from the retained catch will be measured each day unless otherwise directed. The scallops will be randomly selected from at least 3 hauls.

- Shell heights: measure to the nearest millimeter the straight line distance perpendicular from the umbo to the outer shell margin (Appendix 11). Do not measure broken or chipped shells.
- Age: enumeratic yearly concentric annual rings formed on the pigmented upper (dorsal) valve (Appendix 12).
- Sex: determine by gonad coloration.
- Gonad Development: determine by visual estimation of the amount of sexual products present within gonadal tissues (see key to conditions).
- Additional columns may accommodate studies of injured scallops or shucked meat weights as directed by ADF&G area biologist.
- Sample type: Additional scallop samples of the unsorted catch or discarded catch may be requested at the time of briefing. Instruct the vessel crew to retain discard for sampling if desirable. A code listed on the form differentiates the type of the sample.
- If other sampling activity precludes achieving the 50 scallop objective, then obtain the full realm of biologic information on those scallops that are sampled.

## TERMS AND DEFINITIONS

### *Crab Measurement*

The observer will measure crab to previously developed biological parameters. The biological measurement for king crab is the carapace LENGTH. To make the biological measurement, a vernier caliper must be used. The measurement is taken from the posterior margin of the right eye orbit of the carapace to the center of the posterior carapace margin. The length is recorded to the nearest whole millimeter.

The biological measurement for Tanner crab is the carapace WIDTH. This width measurement is the greatest straight line distance across the carapace EXCLUDING SPINES, at a right angle to an imaginary line midway between the eyes to the mid-point of the posterior portion of the carapace. This measurement is recorded to the nearest whole millimeter.

The biological measurement for Dungeness crab is the carapace WIDTH as measured INSIDE the tenth antero-lateral spine.

### ***Tagged Animals***

If a tagged animal is encountered while sampling, or if a crew member brings the observer a tagged animal, information on the date, location (longitude and latitude), depth and method of capture should be recorded when possible. Scallop height and age MUST be recorded and the tagged value MUST be turned in to ADF&G. Fish length, or the biological measurement and shell age of crab, should also be recorded if tagged animals are encountered. Illegal species should be returned to the sea unharmed as soon as possible.

### ***Shell-Age***

When aging scallops all the annuli are marked and then counted to determine total age. If detailed analysis is initiated by the ADF&G area biologist, individual annulus will be measured. Measurements are then made from the umbo to each marked annulus to determine growth rates.

Measurements are made in millimeters using calipers and recorded on the Scallop Size Frequency Form using columns designated at the time of briefing.

On each crab sampled during species composition or crab/halibut monitoring, a shell-age determination must be made. The observer should keep in mind the subjective nature of this determination. Only by looking at many crab from a similar area can a relatively accurate assessment of shell age be made. Shell condition criteria for king and Tanner crab are discussed in Appendix 13.

### ***Sex, Maturity, and Egg Condition***

Most weathervane scallops mature at three years of age and all are mature by age four. Spawning occurs primarily during June and July. Immature scallop have small flattened and transparent gonads. Mature females have ovaries colored a dull amber to pink to bright orange depending on time of the year. Males testes are nearly colorless to flat white depending on time of the year. Appendix 14 will aid in determining maturity.

### ***Random Sample***

In a random sample, animals are selected in such a way that each animal or combination of animals has an equal chance of being selected. A random sample must be unbiased.

### ***Scallop Species***

There are two types of scallops fished for in Alaskan waters. The weathervane scallop (*Patinopecten caurinus*) is the primary scallop species harvested, accounting for over 99 percent of the commercial catch. This is a large scallop reaching a height of 12 inches. In Alaska its ranges from Dixon Entrance in southeast Alaska to the Bering Sea. Pink scallops (*Chlamys sp.*) are the other scallop harvested in Alaska. These are small scallops growing to four inches in height. Pink scallops are found throughout Alaska from Dixon Entrance to the Bering Sea and Arctic Ocean. They have only been fished on an experimental basis. Their small size makes processing them labor intensive. Appendix 15 lists distinguishing characteristics of these scallops.

### ***King Crab Species***

The three commonly harvested species of king crab in Alaska are:

*Paralithodes camtschatica* (red king crab): Abundance is centered in the Kodiak Archipelago and Bristol Bay.

*Paralithodes platypus* (blue king crab): Highest abundance around the Pribilof and St. Matthew Islands.

*Lithodes aequispina* (brown or golden king crab): Greatest concentrations are along the Aleutian Islands.

### ***Tanner Crab Species***

There are two commonly harvested species in the genus *Chionoecetes* in Alaska. *Chionoecetes bairdi* (Tanner crab) is found through Southeast Alaska to the Bering Sea, while *C. opilio* (snow crab) is found primarily in the Bering Sea. There is also a hybrid of these two species which can display a wide range of mixed characteristics. Distinguishing characteristics are shown in Appendix 16.

## **COLLECTING EVIDENCE**

Evidence collected by observers comes in many forms. Photographs of illegal activities, loran coordinates on data forms, and statements or notebook entries by the observer describing illegal activity and prohibited species retention can all be used to substantiate incidence of suspected illegal activity.

## PHOTOGRAPHS

To substantiate information recorded in the observer notebook and on data forms it is important to take pictures of potential violations. When taking photographs of prohibited species position animal in such a way that identification is obvious. Five to eight feet seems to be the optimum distance for clear and detailed photos.

Photographs are also appropriate when other illegal activities are observed, i.e. MARPOL violations. Include as much of the activity as possible in the photograph and document thoroughly in notebook.

All photographs should be documented in the daily entry of the observer notebook. Also a photo log should be kept on the back page of the notebook to facilitate sorting of photos when they arrive from the developer. Indicate the frame number of the photo, the date it was taken and what is shown in the photo.

## NOTEBOOK ENTRIES

Any potential violations witnessed by an observer MUST be documented in the observer notebook. What specifically was the potential violation. Where on the vessel did it occur, i.e. deck, processing line, wheel house. Who was involved, i.e. sorters, and who was in charge. Who was notified of the potential violation and their reaction or comments. Document any conversations related to the potential violation. Document observer actions taken, i.e. date forms, pictures, physical evidence collected, where evidence was stored, etc. Observers are often questioned weeks, months and sometimes years after the event, so thorough documentation is essential.

All forms and material collected by an observer become the property of The Alaska Department of Fish and Game and must be submitted at the time of debriefing.

## 1993 YAKUTAT SCALLOP FISHERY

### RADIO REPORT PROCEDURES

The following procedures will be followed during the 1993 Yakutat Scallop fishery. Be prompt, accurate, and courteous with all radio correspondence. Speak slowly enough to allow your report to be copied accurately. Be sure to state your vessel name and coded information as: "ITEM ONE:\_\_\_\_; ITEM TWO:\_\_\_\_; ITEM THREE:\_\_\_\_;" etc.

Primary reporting contract:      KFJ58 Yakutat, 3201 SSB.  
Telephone:                      784-3255    FAX: 784-3254

Reporting Time:                      Monday, Wednesday, and Friday mornings at 0900.

If a schedule is missed, report as soon as possible. ADF&G monitors the radio 0800 to 1630 Monday through Friday on 3201. Observer MUST report even in there was no processing or fishing. In this case just report sampling conditions, ITEM 5. Reports may be given by any means the vessel has, i.e., telephone, FAX, or SSB, but a report MUST be made as directed. Reports sent by fax or radio MUST ALWAYS be given in code.

#### REPORT THE FOLLOWING ITEMS FOR EACH STATISTICAL AREA FISHED:

- ITEM 1.    Statistical area.
- ITEM 2.    Total number of tows.
- ITEM 3.    Number of tows sampled.
- ITEM 4.    Pounds of scallops retained for report period.
- ITEM 5.    Sampling conditions.
- ITEM 6.    Total number of bairdi crab in sampled tows.
- ITEM 7.    Number of sampled tows that caught Tanner crab. Omit only if ITEM 6 is zero.



Captain's name \_\_\_\_\_  
Observer name \_\_\_\_\_  
Vessel Name \_\_\_\_\_

Trip number				ADF&G #				Year	

[illegible]

## gear performance

- 1-satisfactory (both dredges)

- 2-unsatisfactory (both dredges)

- 3-partially satisfactory (one dredge satisfactory and one dredge unsatisfactory)**

## ALASKA DEPARTMENT OF FISH AND GAME

## WEEKLY SUMMARY

# SCALLOP CATCHER PROCESSOR

Beginning Monday \_\_\_\_\_ through Sunday \_\_\_\_\_

Observer \_\_\_\_\_  
Vessel \_\_\_\_\_  
Skipper \_\_\_\_\_

Trip Number				ADF&G #				Year	

[illegible][illegible]

# WEEKLY TRIP SUMMARY

**TOTALS**

Estimated Number of Crab

- (1). # of crab observed
- (2). # Hauls observed
- (3). # Hauls completed

**Est. No. Crab = (1)/(2) X (3)**



p \_ of \_

Observer \_\_\_\_\_  
Vessel \_\_\_\_\_  
Date \_\_\_\_\_

- [illegible]

(Weight in total catch = Species subsample weight multiplied by the raising factor)

**Note: All crab and halibut will be measured and recorded on a separate form.**

p \_\_\_\_ of \_\_\_\_

Trip #			ADF&G #				Haul #	

[illegible]

### Mortality

1-Old injury  
2-New injury  
\*leave blank if no injury

1-Dead  
2-Alive

30

Observer \_\_\_\_\_  
Vessel \_\_\_\_\_  
Date \_\_\_\_\_

# of dredges sampled 

1. Excellent—vigorous body movement before and after release; could close operculum tightly; minor external injuries, if any.
2. Good—feeble body movements; could close operculum tightly; minor external injuries, if any.
3. Fair—no body movement; could close operculum tightly; minor external injuries, if any.
4. Poor—no body movement; could move operculum but not tightly; severe injuries (eg. bleeding).
5. Dead—no body or opercular movement.

# ALASKA DEPARTMENT OF FISH AND GAME

## SCALLOP SIZE FREQUENCY FORM

Observer \_\_\_\_\_  
 Vessel \_\_\_\_\_  
 Date \_\_\_\_\_

Trip #	ADF&G #	Haul #

Sample type ☐

	Shell height (mm)	Age	Sex	Gonad Develop.		Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
32						
33						
34						
35						

Sex  
 1 – Male  
 2 – Female

Gonad Development  
 1 – Immature or juvenile  
 2 – Full or ripe  
 3 – Empty or spawned out  
 4 – Initial recovery  
 5 – Filling

Sample type  
 1 – Unsorted catch  
 2 – Retained catch  
 3 – Discarded catch

# Appendix 10. Halibut Conversion Table

## HALIBUT LENGTH-TO-WEIGHT CONVERSION TABLE

Length (cm)	Weight (pounds)	Length (cm)	Weight (pounds)	Length (cm)	Length (pounds)
21	0.2	<u>47</u>	2.4	73	10.0
22	0.2	48	2.6	74	10.5
23	0.2	49	2.8	75	10.9
24	0.3	50	2.9	76	11.4
25	0.3	51	3.1	77	11.9
26	0.4	52	3.3	78	12.4
27	0.4	53	3.6	79	13.0
28	0.5	54	3.8	80	13.5
29	0.5	55	4.0	81	14.0
30	0.6	56	4.2	82	14.6
31	0.6	57	4.5	83	15.2
32	0.7	58	4.8	84	15.8
33	0.8	59	5.0	85	16.4
34	0.8	60	5.3	86	17.1
35	0.9	61	5.6	87	17.7
36	1.0	62	5.9	88	18.4
37	1.1	63	6.2	89	19.1
38	1.2	64	6.5	90	19.8
39	1.3	65	6.9	91	20.5
40	1.4	66	7.2	92	21.2
41	1.6	67	7.6	93	22.0
42	1.7	68	8.0	94	22.7
43	1.8	69	8.4	95	23.5
44	1.9	70	8.8	96	24.4
45	2.1	71	9.2	97	25.2
46	2.2	72	9.6	98	26.0

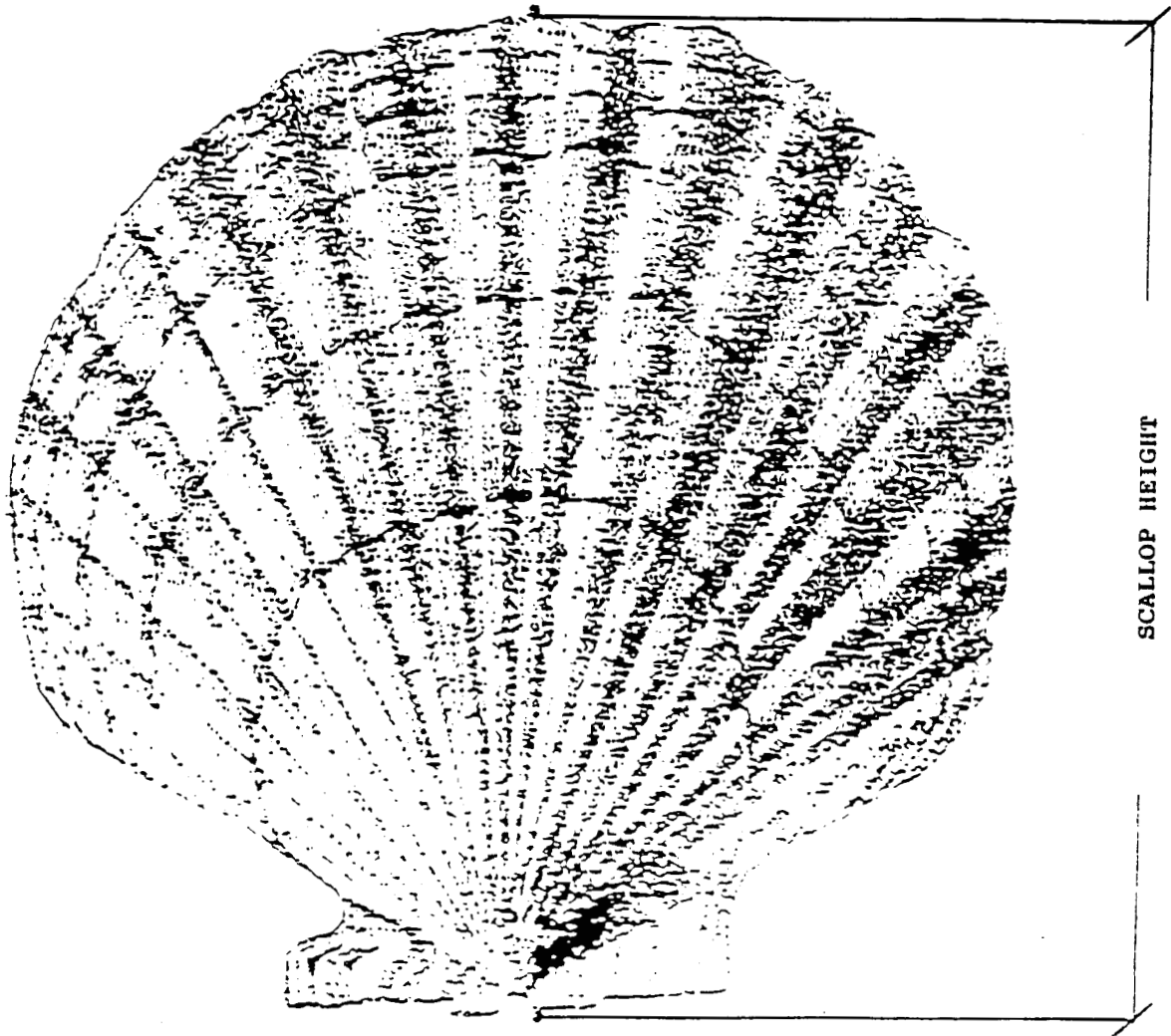
HALIBUT LENGTH-TO-WEIGHT CONVERSION TABLE

Length (cm)	Weight (pounds)	Length (cm)	Weight (pounds)	Length (cm)	Length (pounds)
99	26.9	<u>125</u>	57.3	151	105.7
100	27.8	126	58.8	152	107.8
101	28.7	127	60.3	153	110.3
102	29.6	128	61.8	154	112.6
103	30.6	129	63.9	155	115.0
104	29.4	130	65.2	156	117.4
105	32.6	131	66.7	157	119.9
106	33.6	132	68.3	158	122.4
107	34.7	133	70.6	159	124.9
108	35.7	134	71.8	160	127.5
109	36.8	135	73.5	161	130.0
110	37.9	136	75.3	162	132.7
111	39.0	137	77.1	163	135.4
112	40.2	138	78.9	164	138.1
113	41.4	139	80.9	165	140.8
114	42.6	140	82.8	166	143.6
115	43.8	141	84.0	167	146.4
116	45.0	142	86.7	168	149.2
117	46.3	143	88.7	169	152.2
118	47.5	144	90.6	170	155.1
119	48.8	145	92.0	171	158.1
120	50.3	146	94.7	172	161.1
121	51.6	147	96.9	173	164.1
122	52.9	148	99.0	174	167.3
123	54.5	149	101.2	175	170.4
124	55.8	150	103.4	176	173.6

HALIBUT LENGTH-TO-WEIGHT CONVERSION TABLE

Length (cm)	Weight (pounds)	Length (cm)	Weight (pounds)
177	176.8	<u>203</u>	275.6
178	180.0	204	280.0
179	183.3	205	284.5
180	186.7	206	289.0
181	190.1	207	293.6
182	193.5	208	298.2
183	196.9	209	302.9
184	200.4		
185	204.0		
186	207.6		
187	211.2		
188	214.9		
189	218.0		
190	222.4		
191	226.2		
192	230.1		
193	234.0		
194	237.9		
195	241.9		
196	246.0		
197	250.1		
198	255.2		
199	258.4		
200	262.6		
201	266.9		
202	271.2		

APPENDIX 11. FIGURE OF SCALLOP SHELL HEIGHT MEASUREMENT



WEATHERVANE SCALLOP



## Appendix 12. SCALLOP SHELL-AGE CHARACTERISTICS

Age is determined by counting the annuli, concentric rings on the shell, which are found with the colder or warmer water temperatures of winter or summer.

The left (upper) valve will be measured and aged. For each individual to be aged, record the total number of observed annuli and the distance from the umbo to the first observable ring.

The number of observed rings will be recorded on the size frequency form under the age column. The distance from the umbo to the first observable ring as measured in millimeters will be recorded under comments on the same form.

The local ADF&G biologist will advise the observer at the time of briefing as to collections of upper valves that will be brought back to the ADF&G office. These shell collections are to be clean, dry, and only the left (upper) valves. Take care to collect and preserve unbroken shells.

### SCALLOP SIZE FREQUENCY FORM

Observer \_\_\_\_\_  
 Vessel \_\_\_\_\_  
 Date \_\_\_\_\_

Trip #				ADF&G #				Haul #			

	Shell Height			Age		Sex	Gonad Develop						Comments
1													
2													
3													
4													
5													

- # of observed rings

- mm to 1st annuli

## Appendix 13. Crab Shell-age Characteristics

Consistent and accurate shell aging techniques using shell condition are difficult because there is some subjectivity in determining the characteristic definition. The time of year and the type of seabed where the crabs reside will cause crabs to "age" at seemingly different rates. The more hands-on experience with the aging techniques, the more confident and accurate each observer will become.

There are two important variables in determining shell condition: time of year and type of seabed where the crabs reside. For example, in November you may be an observer in the Bristol Bay red king crab fishery. It is likely that many of the crab you will see went through their annual molt between April and July. Knowing this you can assume that most of the shell you see in November are seven to ten months old, which puts them in the new shell classification. Those crab with similar shell ages may also vary with the seabed conditions. These conditions can influence both the color of the exoskeleton and the amount of scratches on a particular crab. For example, a blue king crab from near St. Matthew (rough and rocky seabed) with a shell age of seven months will show more shell wear than the same age red king crab from Bristol Bay (sand and mud seabed). Brown king crab molt year round and will exhibit a wide variety of shell ages regardless of the time of year. Female tanner crab will reach a terminal molt stage where they no longer molt. The presents of grasping marks on the legs of these crab will indicate that they are old or very old shell.

It is helpful to examine several areas on the crab to determine shell condition, especially the shoulders and dactylus. The amount of scratches and the color of the exoskeleton on the ventral surface combined with spine wear are all factors to be used in aging crab.

### Shell Age Classifications

- 0 = Soft - Shells which are 0-2 months old.
- 1 = New - Shells which are 3-12 months old.
- 2 = Old - Shells which are 13-24 months old.
- 3 = Very old - Shells which are more than 24 months old.

### **ALL CRAB SPECIES**

Soft shell = 0 - Crabs of this age have just recently molted. They are like dough and very pliable. Their exoskeleton is like skin and easily pressed in. This period is short as the exoskeleton begins to harden up quickly, generally within a week after molting. Soft shell crab are not commonly collected in pots. This classification should not be confused with crabs several months after a molt that have hardened exoskeletons which can be compressed due to lack of meat.

### **KING CRAB**

A key place to compare shell ages in king crab is the ventral surfaces and the amount of scratches on the coxa or "shoulder". Brown king crab do not have white ventral surfaces and shell aging should be done primarily on the abundance of scratches on the coxa and the discoloration .

New shell = 1 - White ventral surfaces with relatively few scratches or abrasions.

Old shell = 2 - Yellowish exoskeleton ventrally, with a number of dark stained scratches.

Very Old shell = 3 - Yellowish exoskeleton ventrally, darkened by several years of accumulated scratches and abrasions; scratches are also present on the carapace. Spines on the carapace are worn as are the tips of the dactyls. Epifauna often apparent.

### **TANNER CRAB (*C. bairdi* and *C. opilio*)**

New shell = 1 - Ventral surface with limited scratching, pinkish. Carapace pink to brownish-red. Exoskeleton spines sharp.

Old shell = 2 - Ventral surface with numerous scratches and abrasions. Exoskeleton brown, spines worn. Epifauna may be present.

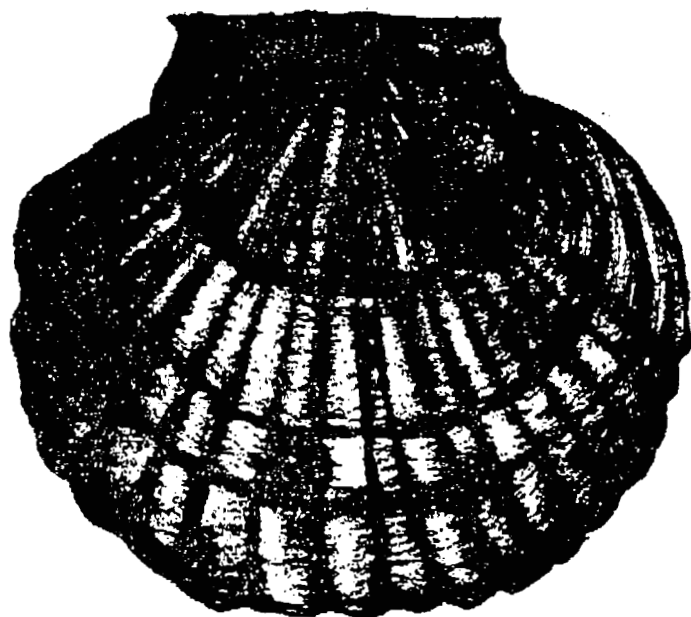
Very Old shell = 3 - Ventral surface with multiple scratches and abrasions. Dark brown to blackish exoskeleton; spines heavily worn. Epifauna almost always present.

#### APPENDIX 14. SCALLOP GONAD CHARACTERISTICS.

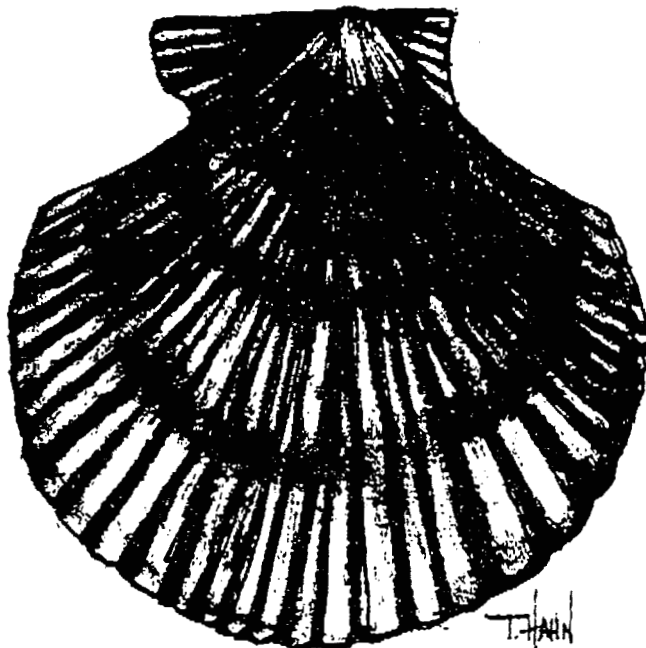
- I. Immature or Juvenile: Gonad is relatively small in relation to other body parts, angular and flattened, transparent and colorless. No reproductive tissue visible to the unaided eye.
- II. Full or Ripe: Gonad is relatively large in relation to other body parts, completely full and rounded, contains no free water, loop of alimentary canal not usually visible, texture granular. Testes a flat white, ovaries bright orange.
- III. Empty or Spawning Out: Gonad reduced in size and collapsed, contains free water throughout, transparent, loop of alimentary canal clearly visible. Testes nearly colorless, ovaries a dull amber to nearly colorless.
- IV. Initial Recovery: Gonad increasing in size, contains 1/4 to 1/2 the estimated capacity of sex cells, free water exists in portions, loop of alimentary canal visible but fading. Portion of testes containing sex cells cloudy white, otherwise transparent, ovaries amber to dull pink or orange.
- V. Filling: Gonad near maximum size, contains 3/4 or more of the estimated capacity of sex products, free water exists only as small canals or at the extreme distal end of the gonad, loop of the alimentary canal visible only where it is close to the surface, if at all. Testes a pasty white, ovaries orange to bright orange.

APPENDIX 15. DISTINGUISHING CHARACTERISTICS OF ALASKAN SCALLOPS

Weathervane



Chlamys sp.



Weathervane Scallops:

A large scallop with prominent heavy widely spaced smooth ribs. The valves are wider than long and slightly convex. Color is a dark brown on the left valve often with barnacles and other marine growth. The right valve is light brown to golden yellow in color. The anterior and posterior ears are nearly equal.

Chlamys sp. Scallops:

Small scallops with valves that are longer than wide and strongly convex. The ribs are prominent closely set often with spines and in bundles depending on the species. Color varies from pink to golden brown to white. They are often covered with the scallop sponge and other marine organisms. The anterior ears are longer than the posterior ears.

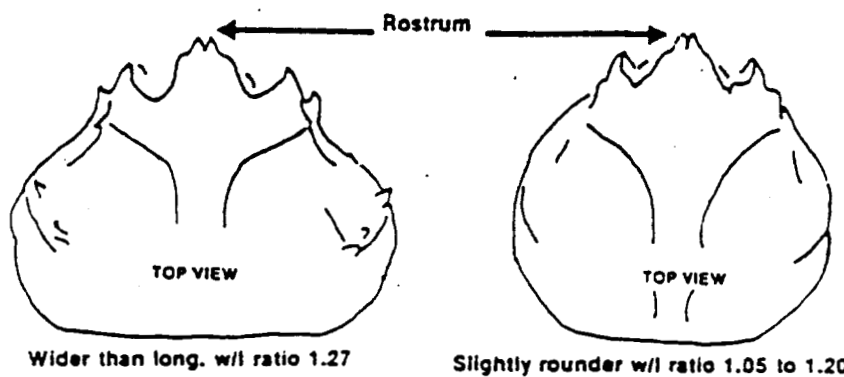
APPENDIX 16. DISTINGUISHING CHARACTERISTICS OF C. BAIRDI AND  
C. OPILIO.

TANNER CRAB IDENTIFICATION GUIDE

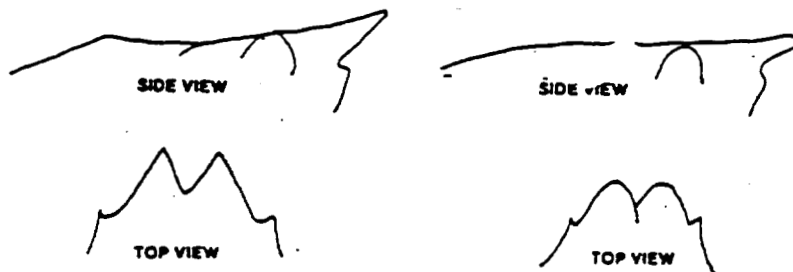
bairdi

opilio

CARAPACE SHAPE



ROSTRUM SHAPE



MOUTH AREA (EPISTOME) SHAPE



EYE COLOR

Red

Green

SCALLOP OBSERVER CODE SHEET # 1

NUMBERS:

CODES	MEANING
-----	-----
G, F	0
K, W	00
L, Y	000
S, J	1
P, O	2
D, Z	3
M, C	4
I, H	5
B, A	6
E, T	7
R, Q	8
N, X	9
-----	-----

SAMPLING CONDITION CODES (ITEM #5)

CODES	MEANING
-----	-----
EW	NO PROBLEM
ZT	NO PROBLEM
LS	NO PROBLEM
WA	NO PROBLEM
BK	NO PROBLEM
XF	NO PROBLEM
ML	POTENTIAL
AV	POTENTIAL
HE	HARRASSMENT
RH	HARRASSMENT
UX	HARRASSMENT BUT ABLE TO GET WORK DONE.
YI	HARRASSMENT BUT ABLE TO GET WORK DONE.
GR	SOS
SM	SICK
DZ	SICK, UNABLE TO PERFORM WORK
JG	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
CN	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
VB	SPARE
ID	SPARE
OQ	SPARE
-----	-----

# SCALLOP OBSERVER CODE SHEET # 2

## NUMBERS:

CODES	MEANING
-----	-----
E, Z	0
L, W	00
B, X	000
M, A	1
H, R	2
U, Y	3
G, S	4
D, J	5
C, V	6
I, O	7
Q, K	8
F, N	9
-----	-----

## SAMPLING CONDITION CODES (ITEM #5)

CODES	MEANING
-----	-----
BB	NO PROBLEM
YO	NO PROBLEM
EJ	NO PROBLEM
VA	NO PROBLEM
UF	NO PROBLEM
RU	NO PROBLEM
HD	POTENTIAL
TZ	POTENTIAL
KN	HARRASSMENT
AP	HARRASSMENT
FQ	HARRASSMENT BUT ABLE TO GET WORK DONE.
QS	HARRASSMENT BUT ABLE TO GET WORK DONE.
CM	SOS
OX	SICK
MR	SICK, UNABLE TO PERFORM WORK
XI	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
LK	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
ZE	SPARE
JY	SPARE
NT	SPARE
-----	-----



SCALLOP OBSERVER CODE SHEET # 3

NUMBERS:

CODES	MEANING
-----	
B, Y	0
E, V	00
U, R	000
H, T	1
K, A	2
F, Q	3
C, O	4
M, X	5
L, Z	6
J, N	7
P, D	8
G, I	9
-----	

SAMPLING CONDITION CODES (ITEM #5)

CODES	MEANING
-----	
IZ	NO PROBLEM
TG	NO PROBLEM
EK	NO PROBLEM
UU	NO PROBLEM
GJ	NO PROBLEM
KA	NO PROBLEM
PB	POTENTIAL
HM	POTENTIAL
JO	HARRASSMENT
WH	HARRASSMENT
FQ	HARRASSMENT BUT ABLE TO GET WORK DONE.
ZF	HARRASSMENT BUT ABLE TO GET WORK DONE.
OR	SOS
YP	SICK
VT	SICK, UNABLE TO PERFORM WORK
RW	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
SX	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
BI	SPARE
DN	SPARE
CD	SPARE
-----	

SCALLOP OBSERVER CODE SHEET # 4

NUMBERS:

CODES	MEANING
I, T	0
E, U	00
G, K	000
P, H	1
J, W	2
F, Z	3
O, Y	4
V, R	5
S, B	6
D, C	7
X, A	8
N, M	9

SAMPLING CONDITION CODES (ITEM #5)

CODES	MEANING
GQ	NO PROBLEM
AR	NO PROBLEM
XM	NO PROBLEM
VL	NO PROBLEM
KI	NO PROBLEM
CK	NO PROBLEM
MO	POTENTIAL
DB	POTENTIAL
IZ	HARRASSMENT
SN	HARRASSMENT
UV	HARRASSMENT BUT ABLE TO GET WORK DONE.
TD	HARRASSMENT BUT ABLE TO GET WORK DONE.
QG	SOS
OE	SICK
RY	SICK, UNABLE TO PERFORM WORK
NW	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
JT	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
BF	SPARE
WX	SPARE
PH	SPARE

SCALLOP OBSERVER CODE SHEET # 5

NUMBERS:

CODES	MEANING
G, A	0
X, V	00
K, C	000
M, D	1
I, S	2
U, T	3
Q, O	4
R, N	5
J, B	6
W, P	7
H, Z	8
F, L	9

SAMPLING CONDITION CODES (ITEM #5)

CODES	MEANING
SR	NO PROBLEM
FP	NO PROBLEM
HO	NO PROBLEM
LL	NO PROBLEM
MW	NO PROBLEM
OF	NO PROBLEM
AN	POTENTIAL
ZD	POTENTIAL
UG	HARRASSMENT
DH	HARRASSMENT
KJ	HARRASSMENT BUT ABLE TO GET WORK DONE.
XT	HARRASSMENT BUT ABLE TO GET WORK DONE.
WU	SOS
GV	SICK
BY	SICK, UNABLE TO PERFORM WORK
YZ	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
CI	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
QX	SPARE
PC	SPARE
EE	SPARE

SCALLOP OBSERVER CODE SHEET # 6

NUMBERS:

CODES	MEANING
S, F	0
H, L	00
M, O	000
A, Z	1
U, D	2
K, X	3
W, G	4
B, Y	5
C, Q	6
P, E	7
R, T	8
J, I	9

SAMPLING CONDITION CODES (ITEM #5)

CODES	MEANING
EW	NO PROBLEM
NS	NO PROBLEM
AX	NO PROBLEM
CJ	NO PROBLEM
WZ	NO PROBLEM
GN	NO PROBLEM
JC	POTENTIAL
HP	POTENTIAL
YQ	HARRASSMENT
DI	HARRASSMENT
VF	HARRASSMENT BUT ABLE TO GET WORK DONE.
ZO	HARRASSMENT BUT ABLE TO GET WORK DONE.
SH	SOS
QR	SICK
RE	SICK, UNABLE TO PERFORM WORK
BA	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
IM	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
TL	SPARE
PG	SPARE
XU	SPARE

SCALLOP OBSERVER CODE SHEET # 7

NUMBERS:

CODES	MEANING
E, N	0
A, C	00
W, G	000
J, H	1
Y, D	2
V, Z	3
S, Q	4
R, B	5
I, T	6
P, X	7
U, M	8
F, L	9

SAMPLING CONDITION CODES (ITEM #5)

CODES	MEANING
WF	NO PROBLEM
AB	NO PROBLEM
VY	NO PROBLEM
KX	NO PROBLEM
OA	NO PROBLEM
TJ	NO PROBLEM
HK	POTENTIAL
YG	POTENTIAL
SW	HARRASSMENT
NL	HARRASSMENT
LP	HARRASSMENT BUT ABLE TO GET WORK DONE.
IN	HARRASSMENT BUT ABLE TO GET WORK DONE.
CC	SOS
ED	SICK
PZ	SICK, UNABLE TO PERFORM WORK
DM	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
ME	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
RU	SPARE
JV	SPARE
QO	SPARE

SCALLOP OBSERVER CODE SHEET # 8

NUMBERS:

CODES	MEANING
W, A	0
V, K	00
O, T	000
H, Y	1
S, N	2
L, I	3
C, E	4
P, D	5
M, R	6
J, Q	7
U, F	8
B, Z	9

SAMPLING CONDITION CODES (ITEM #5)

CODES	MEANING
TG	NO PROBLEM
NQ	NO PROBLEM
JX	NO PROBLEM
OB	NO PROBLEM
YK	NO PROBLEM
BL	NO PROBLEM
KT	POTENTIAL
FD	POTENTIAL
AZ	HARRASSMENT
SM	HARRASSMENT
IH	HARRASSMENT BUT ABLE TO GET WORK DONE.
UR	HARRASSMENT BUT ABLE TO GET WORK DONE.
ZY	SOS
RE	SICK
PF	SICK, UNABLE TO PERFORM WORK
LJ	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
MA	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
CN	SPARE
GU	SPARE
HV	SPARE

SCALLOP OBSERVER CODE SHEET # 9

NUMBERS:

CODES            MEANING

T, N	0
J, O	00
Y, B	000
K, F	1
A, S	2
I, U	3
Z, R	4
P, L	5
M, C	6
G, H	7
X, E	8
D, V	9

SAMPLING CONDITION CODES      (ITEM #5)

CODES            MEANING

SR	NO PROBLEM
QC	NO PROBLEM
DT	NO PROBLEM
CW	NO PROBLEM
NG	NO PROBLEM
OH	NO PROBLEM
GM	POTENTIAL
EB	POTENTIAL
VD	HARRASSMENT
UZ	HARRASSMENT
IO	HARRASSMENT BUT ABLE TO GET WORK DONE.
PQ	HARRASSMENT BUT ABLE TO GET WORK DONE.
MY	SOS
RP	SICK
LE	SICK, UNABLE TO PERFORM WORK
BS	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
YU	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
TK	SPARE
KF	SPARE
XI	SPARE

SCALLOP OBSERVER CODE SHEET # 10

NUMBERS:

CODES            MEANING

S, Q	0
D, C	00
N, O	000
G, E	1
V, U	2
I, P	3
M, R	4
L, B	5
Y, T	6
K, X	7
H, A	8
F, Z	9

SAMPLING CONDITION CODES      (ITEM #5)

CODES            MEANING

DK	NO PROBLEM
AM	NO PROBLEM
MP	NO PROBLEM
CU	NO PROBLEM
BD	NO PROBLEM
TY	NO PROBLEM
RX	POTENTIAL
IN	POTENTIAL
ZG	HARRASSMENT
KQ	HARRASSMENT
VS	HARRASSMENT BUT ABLE TO GET WORK DONE.
YI	HARRASSMENT BUT ABLE TO GET WORK DONE.
SZ	SOS
UT	SICK
GE	SICK, UNABLE TO PERFORM WORK
HF	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
WB	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
EO	SPARE
JL	SPARE
OA	SPARE



SCALLOP OBSERVER CODE SHEET # 11

NUMBERS:

CODES	MEANING
-----	
D, A	0
M, C	00
B, T	000
R, I	1
Z, K	2
V, Y	3
S, U	4
G, H	5
W, E	6
J, O	7
P, N	8
F, L	9
-----	

SAMPLING CONDITION CODES (ITEM #5)

CODES	MEANING
-----	
OI	NO PROBLEM
GK	NO PROBLEM
ZL	NO PROBLEM
TP	NO PROBLEM
FT	NO PROBLEM
PZ	NO PROBLEM
US	POTENTIAL
MJ	POTENTIAL
EN	HARRASSMENT
XG	HARRASSMENT
LO	HARRASSMENT BUT ABLE TO GET WORK DONE.
IX	HARRASSMENT BUT ABLE TO GET WORK DONE.
CH	SOS
BE	SICK
AM	SICK, UNABLE TO PERFORM WORK
NQ	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
KA	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
HY	SPARE
JB	SPARE
VF	SPARE
-----	

SCALLOP OBSERVER CODE SHEET # 12

NUMBERS:

CODES	MEANING
O, G	0
Z, T	00
F, P	000
U, M	1
E, X	2
L, I	3
C, B	4
A, N	5
K, H	6
J, V	7
Y, W	8
D, R	9

SAMPLING CONDITION CODES (ITEM #5)

CODES	MEANING
RC	NO PROBLEM
GE	NO PROBLEM
UP	NO PROBLEM
VZ	NO PROBLEM
PU	NO PROBLEM
MY	NO PROBLEM
TF	POTENTIAL
FG	POTENTIAL
NK	HARRASSMENT
CM	HARRASSMENT
OX	HARRASSMENT BUT ABLE TO GET WORK DONE.
JN	HARRASSMENT BUT ABLE TO GET WORK DONE.
AI	SOS
DV	SICK
BL	SICK, UNABLE TO PERFORM WORK
YW	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
QJ	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
ID	SPARE
SH	SPARE
XS	SPARE

SCALLOP OBSERVER CODE SHEET # 13

NUMBERS:

CODES	MEANING
-------	---------

R, G	0
U, V	00
P, M	000
T, F	1
N, C	2
O, J	3
A, D	4
B, Y	5
Q, I	6
S, X	7
K, E	8
H, W	9

SAMPLING CONDITION CODES (ITEM #5)

CODES	MEANING
-------	---------

VB	NO PROBLEM
NO	NO PROBLEM
ZX	NO PROBLEM
RQ	NO PROBLEM
TL	NO PROBLEM
OC	NO PROBLEM
AG	POTENTIAL
KM	POTENTIAL
HI	HARRASSMENT
UW	HARRASSMENT
FE	HARRASSMENT BUT ABLE TO GET WORK DONE.
GH	HARRASSMENT BUT ABLE TO GET WORK DONE.
DY	SOS
CZ	SICK
YD	SICK, UNABLE TO PERFORM WORK
XU	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
IK	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
EJ	SPARE
LS	SPARE
WR	SPARE

SCALLOP OBSERVER CODE SHEET # 14

NUMBERS:

CODES	MEANING
-----	
V, N	0
Z, R	00
T, O	000
A, K	1
H, U	2
F, G	3
D, C	4
Y, X	5
I, E	6
L, W	7
S, J	8
B, Q	9
-----	

SAMPLING CONDITION CODES (ITEM #5)

CODES	MEANING
-----	
JT	NO PROBLEM
PW	NO PROBLEM
BH	NO PROBLEM
LM	NO PROBLEM
YX	NO PROBLEM
MA	NO PROBLEM
TR	POTENTIAL
GG	POTENTIAL
FY	HARRASSMENT
SI	HARRASSMENT
CO	HARRASSMENT BUT ABLE TO GET WORK DONE.
UF	HARRASSMENT BUT ABLE TO GET WORK DONE.
ON	SOS
QB	SICK
NP	SICK, UNABLE TO PERFORM WORK
VD	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
EK	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
IV	SPARE
XE	SPARE
RJ	SPARE
-----	

SCALLOP OBSERVER CODE SHEET # 15

NUMBERS:

CODES	MEANING
-----	
J, P	0
B, L	00
Y, M	000
T, G	1
F, S	2
C, U	3
O, Q	4
N, V	5
E, I	6
X, R	7
H, A	8
K, Z	9
-----	

SAMPLING CONDITION CODES (ITEM #5)

CODES	MEANING
-----	
SQ	NO PROBLEM
YN	NO PROBLEM
PO	NO PROBLEM
TP	NO PROBLEM
MR	NO PROBLEM
IM	NO PROBLEM
GE	POTENTIAL
NL	POTENTIAL
JF	HARRASSMENT
AS	HARRASSMENT
DZ	HARRASSMENT BUT ABLE TO GET WORK DONE.
UC	HARRASSMENT BUT ABLE TO GET WORK DONE.
LH	SOS
CU	SICK
KW	SICK, UNABLE TO PERFORM WORK
HV	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
QD	CRAB DISCARDED BY CREW PRIOR TO ME GETTING SAMPLES
WB	SPARE
ZT	SPARE
XK	SPARE
-----	

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